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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,482	10/29/2003	Cheng-Hua Wang	D-19	6972
21253	7590	05/04/2006	EXAMINER	
CHARLES G. CALL 68 HORSE POND ROAD WEST YARMOUTH, MA 02673-2516			LEE, WILSON	
			ART UNIT	PAPER NUMBER
			2163	
DATE MAILED: 05/04/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/696,482	WANG ET AL.	
	Examiner	Art Unit	
	Wilson Lee	2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/29/03</u> . | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections – 35 U.S.C. 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Nesbitt (US pub 2004/0042405).

Regarding Claim 1, Nesbitt discloses a relational database management system (See Figure 8) for storing and analyzing network data stored in relational tables (See paragraphs 0045 and 0049) that describe a set of nodes and links forming a network (160 or 260) wherein each of the nodes represents an object of interest (See paragraph 0042) and each of said links represents a relationship between two of said nodes (See paragraph 0039), said system comprising, in combination:

- a generic node table (850) containing a plurality of node table rows each of which contains data describing a given node in said network (See Figures 3, 5, 8),
- a generic link table (855) containing a plurality of link table rows each of which contains data describing a link between two nodes in said network (See Figures 3, 5, 8), and

- an application program interface (810) which enables executing application programs to create said node table and said link table (See paragraph 0094), to store data describing nodes in said node table (See paragraph 0092), to store data describing links between said nodes in said link table, and to perform a plurality of standard operations (windows, DOS, etc) on the data (stored data) in said node table and said link table (See paragraphs 0020, 0021, 0028).

Regarding Claim 2, Nesbitt discloses that said network is a logical network since the client and host systems are physically separated but connected to the same networking backbone (160) (See paragraph 0025).

Regarding Claim 3, Nesbitt discloses that each of said node table rows contains data specifying a node cost (intersection cost) attribute associated with said given node and wherein each of said link table rows further contains a link cost (link or route cost) attribute associated with a link (See paragraph 0057 and 0091)

Regarding Claim 4, Nesbitt discloses that said standard operations include at least one path identification procedure for analyzing the said network data to identify a particular path (e.g. directed link or route) having stated a cost characteristic (e.g. lowest cost) (See paragraphs 0041 and 0047).

Regarding Claim 5, Nesbitt discloses that said standard operations include at least minimum cost path (e.g. lowest or least cost) identification procedure for analyzing the said network data to identify the path that has the minimum total cost (lowest or

least cost) from a stated start node to a stated end node (See paragraphs 0041, 0043 and 0047).

Regarding Claim 6, Nesbitt discloses that said standard operations include analyzing said network data to identify a path (See paragraph 3) consisting of an alternating sequence (order) of nodes and links having defined characteristics (See paragraphs 0039, 0046 and 0077).

Regarding Claim 7, Nesbitt discloses that the system further includes a path table containing a plurality of path table rows each of which contains data describing a path (See paragraph 3) consisting of an alternating sequence of nodes and links (See Figure 5).

Regarding Claim 8, Nesbitt discloses that the standard operations include at least one path identification procedure for analyzing said network data to identify a particular path having stated characteristics (e.g. cost) and for placing information describing said particular path in one of said path table rows (See paragraphs 0039, 0041, 0043, 0046 and 0047).

Regarding Claim 9, Nesbitt discloses that the system further includes a path-link table containing one ordered set of path-link table rows associated with each given path described in said path table, each of said path table rows containing information identifying one link in the sequence of links in said given path (See paragraphs 039, 0046, 0077).

Regarding Claim 10, Nesbitt discloses that the standard operations include at least one path identification procedure for analyzing said network data to identify a

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particular path having stated characteristics and for placing information describing said particular path in one of said path table rows and for placing information describing the sequence of links in said particular path in said path-link table (See paragraphs 039, 0046, 0077).

Regarding Claim 11, Nesbitt discloses that the standard operations (windows, DOS, etc) include loading node and link data (stored data) into said node and link tables respectively from a database (See paragraph 0020, 0021, 0024, 0028).

Regarding Claim 12, Nesbitt discloses that the network is a spatial network (e.g. node location, link geometries) and wherein each of said node table rows includes a column for storing the identification of a geometry object which specifies the shape and location of one of said nodes (See Figures 3 and 3A, paragraph 20).

Regarding Claim 13, Nesbitt discloses that each of said link table rows includes a column for storing the identification of a geometry object which specifies the geometry of one of said links (See Figures 3 and 3A, paragraph 20).

Regarding Claim 14, Nesbitt discloses each of said link table rows includes a column for storing the identification of a geometry object which specifies the shape and location of one of said links (See Figures 3 and 3A, paragraph 20).

Regarding Claim 15, Nesbitt discloses that the each of said node table rows further contains a level column for holding a hierarchy level (Figure 1 is the parent link and Figure 3 is links) (See Figures 1 and 3).

Regarding Claim 16, Nesbitt discloses that each of said node table rows further contains a parent column (routing graph) for holding the identification of a parent node (See paragraph 8) within the hierarchy established by said level column.

Claims 1, 2, 6-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Nevin III (6,714,936).

Regarding Claim 1, Nevin discloses a relational database management system (See Figure 1) for storing and analyzing network data stored in relational tables (See Col. 2, line 1-13, Col. 4, lines 1-14) that describe a set of nodes and links forming a network (See Col. 3, lines 1-13) wherein each of the nodes represents an object of interest (See Col. 14, lines 34-41) and each of said links represents a relationship between two of said nodes (See Col. 3, lines 1-13 and Col. 13, lines 41-50) said system comprising, in combination:

- a generic node table containing a plurality of node table rows each of which contains data describing a given node in said network (See Col. 17, lines 1-39),
- a generic link table containing a plurality of link table rows each of which contains data describing a link between two nodes in said network (See Col. 17, lines 1-39), and
- an application program interface which enables executing application programs to create said node table and said link table, to store data describing nodes in said node table (See Col. 13, lines 40-46), to store data describing links between said nodes in said link table (See abstract

and Col. 13, lines 20-30), and to perform a plurality of standard operations on the data in said node table and said link table (See Col. 7, lines 34-43, Col. 13, lines 41-46 and Col. 14, lines 64-67).

Regarding Claim 2, Nevin discloses that said network is a logical network since the network connected to the same backbone (See Col. 13, lines 46-62, Col. 23, lines 40-47 and Figures 1, 4, 8).

Regarding Claim 6, Nevin discloses that said standard operations include analyzing said network data to identify a path consisting of an alternating sequence of nodes and links having defined characteristics (See Col. 5, lines 17-18, Col. 17, lines 1-29 and Col. 24, lines 34-59).

Regarding Claim 7, Nevin discloses that the system further includes a path table containing a plurality of path table rows each of which contains data describing a path consisting of an alternating sequence of nodes and links (See Col. 17, lines 1-29).

Regarding Claim 8, Nevin discloses that the standard operations include at least one path identification procedure for analyzing said network data to identify a particular path having stated characteristics and for placing information describing said particular path in one of said path table rows (See Col. 10, lines 1-34, Col. 16, lines 59-68, Col. 17, lines 1-29).

Regarding Claim 9, Nevin discloses that the system further includes a path-link table containing one ordered set of path-link table rows associated with each given path described in said path table, each of said path table rows containing information

identifying one link in the sequence of links in said given path (See Col. 5, lines 17-18, Col. 10, lines 1-34, Col. 16, lines 59-68, Col. 17, lines 1-29)

Regarding Claim 10, Nevin discloses that the standard operations include at least one path identification procedure for analyzing said network data to identify a particular path having stated characteristics and for placing information describing said particular path in one of said path table rows and for placing information describing the sequence of links in said particular path in said path-link table (See Col. 5, lines 17-18, Col. 10, lines 1-34, Col. 16, lines 59-68 and Col. 17, lines 1-29).

Regarding Claim 11, Nevin discloses that the standard operations include loading node and link data into said node and link tables respectively from a database (See Col. 7, lines 34-43, Col. 13, lines 41-46, Col. 14, lines 64-67, Col. 16, lines 59-68 and Col. 23, lines 54-65).

Regarding Claim 12, Nevin discloses that the network is a spatial network (e.g. node location) and wherein each of said node table rows includes a column for storing the identification of a geometry object which specifies the shape and location of one of said nodes (See Col. 15, lines 5-38, Col. 16, lines 59-68 and Figures 1, 4-9).

Regarding Claim 13, Nevin discloses that each of said link table rows includes a column for storing the identification of a geometry object which specifies the geometry of one of said links (See Col. 7, lines 34-42, Col. 13, lines 41-46, Col. 15, lines 5-38, Col. 16, lines 59-68 and Figures 1, 4-9).

Regarding Claim 14, Nevin discloses each of said link table rows includes a column for storing the identification of a geometry object which specifies the shape and

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location of one of said links (See Col. 7, lines 34-42, Col. 13, lines 41-46, Col. 15, lines 5-38, Col. 16, lines 59-68 and Figures 1, 4-9).

Regarding Claim 15, Nevin discloses that the each of said node table rows further contains a level column for holding a hierarchy level (Col. 2, lines 34-42, Col. 4, lines 43-46, Col. 24, lines 34-46, Col. 25, lines 2-20)

Regarding Claim 16, Nevin discloses that each of said node table rows further contains a parent column for holding the identification of a parent node within the hierarchy established by said level column (See Col. 2, lines 34-42, Col. 4, lines 43-46, Col. 14, lines 51-61, Col. 17, lines 62-67, Col. 24, lines 34-46, Col. 25, lines 2-20).

Conclusion

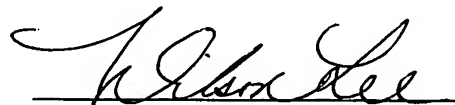
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Elie-Dit-Cosaque et al. (US 2004/0246892) discloses an informed dynamic path protection for optical networks. Butler (6,917,943) discloses a sheaf data model. Chong (6,633,886) discloses a method of implementing an acyclic directed graph structure using a relational database. Chowdhury et al. (6,631,136) discloses a method and apparatus for data communicating using a hybrid transport switching protocol.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Wilson Lee whose telephone number is (571) 272-1824.

Papers related to Technology Center 2800 applications may be submitted to Technology Center 2800 by facsimile transmission. Any transmission not to be considered an official response must be clearly marked "DRAFT". The official fax number is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Wilson Lee
Primary Examiner
U.S. Patent & Trademark Office

5/1/06